

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	8	CDCP1	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/12/04 10:43
S2	5	SIMA135	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/12/01 17:34
S3	8491	TRASK	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/12/04 10:44
S4	0	S3 with src	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/12/04 10:44
S5	1	CD318	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/12/04 10:44
S6	3	"6245898".pn. "6498014".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2006/12/04 16:39

CD318

CDCP1 (CUB domain-containing protein 1), SIMA135, TRASK

Molecule Type

Non-lineage Restricted Molecule
Transmembrane protein

Antigen Expression

Stem Cell, Subset
Hematopoietic Cell
Epithelial Cell
Tumor Cell
Muscle
Colon

Molecular Weight

Min / Max
135 / 135
80 / 80
140 / 140

Expression

CD318 is expressed on hematopoietic stem cell subsets, epithelial cells and in a number of human tumor cell lines as well as in colorectal cancer, breast carcinoma and lung cancer. High expression levels are in skeletal muscle and colon with lower levels in kidney, small intestine, placenta and lung. There is also expression in cells with phenotypes reminiscent of mesenchymal stem cells and neural cells.

Structure

MOLECULAR FAMILY NAME:

CD318 is a single-pass glycoprotein and its shedding may lead to a soluble peptide.

CDCP1 is a novel transmembrane protein. The protein encoded by this gene is located on the cell surface and is a transmembrane protein containing three extracellular CUB domains.

MOLECULAR MASS

POST-TRANSCRIPTIONAL MODIFICATION

Alternative splicing yields 3 different isoforms.

POST-TRANSLATIONAL MODIFICATION

CDCP1 is N-glycosylated.

Ligands

LIGANDS AND MOLECULE ASSOCIATED WITH CD318: No information.

Function

CD318 is a marker for hematopoietic stem cells in addition to being a tumor-associated protein. CDCP1 may be involved in cell adhesion, cell matrix associations or interactions with the extracellular matrix. It may play a role in the regulation of anchorage versus migration versus differentiation via its phosphorylation. It may also be a novel marker for leukemia diagnosis and for immature hematopoietic stem cell subsets. It belongs to the tetraspanin web involved in tumor progression and metastasis.

This protein is found to be overexpressed in colon and lung cancers. Its expression level is correlated with the metastatic ability of carcinoma cells. It is shown to be tyrosine phosphorylated in a cancer cell line.

BIOCHEMICAL ACTIVITY: No information.

DISEASE RELEVANCE AND FUNCTION OF CD318 IN INTACT ANIMAL: No information.

Comments

MOLECULAR INTERACTIONS-
PROTEINS AND DNA ELEMENTS WHICH REGULATE TRANSCRIPTION OF CD318: No information.

SUBSTRATES: No information.



[New Search \(GeneCards Home\)](#) | [GeneCards Guide](#) | [User Feedback](#) | [Terms of Use](#) | [Notice about third-party sites](#)

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GeneCard for protein-coding **CDCP1** **GC03M045098**








CUB domain containing
Symbol approved by the [HUGO Gene Nomenclature Committee](#)

invitrogen [Gene](#)
[Antibodies / RNAi / Pathways](#)

[Services](#)

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<p>Aliases and Descriptions (According to ¹HGNC, ²Entrez Gene, ³UniProt/Swiss-Prot, ⁴UniProt/TrEMBL, ⁵GDB, ⁶OMIM, ⁷GeneLoc, and/or ⁸Ensembl) About This Section</p> <p>Jump to Section...</p>	<p>Aliases CD318 ^{1, 2} SIMA135 ^{1, 2, 3} TRASK ^{2, 3}</p> <p>Descriptions CD318 antigen ³ CUB domain containing protein 1 ^{1, 2, 5} CUB domain-containing protein 1 precursor ³ Membrane glycoprotein gp140 ³ Subtractive immunization M plus HEp3-associated 135 kDa protein Transmembrane and associated with src kinases ³</p> <p>Search outside databases for aliases</p> <p>Previous GC identifiers: GC03M044303 GC03M044943 GC03M045084</p>
<p>Genomic Location (According to GeneLoc and/or HGNC, and/or Entrez Gene (NCBI build 36), and/or miRBase, Genomic Views According to UCSC and Ensembl) About This Section</p> <p>Jump to Section...</p>	<p>Chromosome: 3 Entrez Gene cytogenetic band: 3p21.31 Ensembl cytogenetic band: 3p21.31</p> <p>Gene in genomic location: bands according to Ensembl, locations according to Gene different)</p> <p>Chr 3</p> <p>GeneLoc gene densities for chromosome 3</p> <p>GeneLoc location for GC03M045098: (about GC identifiers) Start: 45,098,773 bp from pter End: 45,162,918 bp from pter Size: 64,145 bases Orientation: minus strand</p> <p>RefSeq genomic assemblies: NC_000003.10 NT_022517.17</p>

<p>Proteins (According to ¹UniProt, and/or Ensembl, Phosphorylation sites according to ²Phosphosite, Recombinant Proteins and Biochemical Assays by Invitrogen, RefSeq according to NCBI, PDB rendering according to OCA, Ontologies according to Gene Ontology Consortium 2006-09-01 and Entrez Gene, Antibodies by Invitrogen, Cell Signaling Technology, and/or Abcam) About This Section</p>	<p>Genomic View: UCSC Golden Path with GeneCards custom track</p> <hr/> <p>UniProt/Swiss-Prot: CDCP1_HUMAN, Q9H5V8 (See protein sequence)</p> <ul style="list-style-type: none"> • ORFNames: UNQ2486/PRO5773 • Size: 836 amino acids; 92875 Da • Subunit: Interacts with CDH2/N-cadherin, CDH3/P-cadherin, SDC1/syndecan-serine protease ST14/MT-SP1. Also interacts with SRC and PRKCG/protein kinase C • Subcellular location: Cell membrane; single-pass membrane protein (Potential lead to a soluble peptide) <p>Post-translational modifications:</p> <ul style="list-style-type: none"> • A soluble form may also be produced by proteolytic cleavage at the cell surface peptide of 80 kDa (p80) is present in cultured keratinocytes probably due to tryptan an unidentified site on its N-terminal side. Converted to p80 by plasmin, a trypsin • View phosphorylation sites using PhosphoSite² <p>REFSEQ proteins (2 alternative transcripts): NP_073753.3 NP_835488.1</p>												
<p>Jump to Section... </p>	<p>ENSEMBL proteins: ENSP00000296129</p> <p>Human Recombinant Proteins  Browse Drug Discovery Central at Invitrogen for human recombinant proteins</p> <p>2 Gene Ontology (GO) cellular component terms (links to tree view): improved</p> <table border="1"> <thead> <tr> <th>GO ID</th> <th>GO term</th> <th>Evidence</th> <th>PubMed IDs</th> </tr> </thead> <tbody> <tr> <td>GO:0016020</td> <td>membrane</td> <td>IEA</td> <td>--</td> </tr> <tr> <td>GO:0016021</td> <td>integral to membrane</td> <td>IEA</td> <td>--</td> </tr> </tbody> </table> <p>About this table</p> <p>Antibodies for CDCP1:  Browse Antibodies Central at Invitrogen improved  Antibodies from Abcam (CDCP1), each with their AbpromiseSM</p> <p>Assays for CDCP1:  Browse Invitrogen for biochemical assays </p>	GO ID	GO term	Evidence	PubMed IDs	GO:0016020	membrane	IEA	--	GO:0016021	integral to membrane	IEA	--
GO ID	GO term	Evidence	PubMed IDs										
GO:0016020	membrane	IEA	--										
GO:0016021	integral to membrane	IEA	--										
<p>Protein Domains/Families (According to InterPro, ProtoNet, UniProt, and/or BLOCKS, Sets of similar genes according to GeneDecks) About This Section</p> <p>Jump to Section... </p>	<p>1 InterPro domain/family: <input checked="" type="checkbox"/> IPR000859 CUB</p> <p>GeneDecks the gene CDCP1 for the domains selected above. About GeneDecksing</p> <p>Graphical View of Domain Structure for UniProt Entry Q9H5V8</p> <p>ProtoNet protein and cluster: Q9H5V8</p> <p>UniProt/Swiss-Prot: CDCP1_HUMAN, Q9H5V8</p> <ul style="list-style-type: none"> • Similarity: Contains 1 CUB domain 												

Gene Function
(According to [MGD](#) Sep 23 2006, [UniProt](#), [IUBMB](#), and/or [Genatlas](#), [RNAi Products](#), [Clones](#), and [Q-PCR Products](#) from [Invitrogen](#), Ontologies according to [Gene Ontology Consortium](#) 2006-09-01 and [Entrez Gene](#).)
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RNAi:

 [Invitrogen RNAi Products for gene knock-down \(CDCP1\)](#)

Clones:

 [Invitrogen Clones for CDCP1](#) 

Primers:

 [Invitrogen Q-PCR LUX™ Primers for CDCP1](#) 

UniProt/Swiss-Prot: [CDCP1_HUMAN](#), [Q9H5V8](#)

- **Function:** May be involved in cell adhesion and cell matrix association. May pla regulation of anchorage versus migration or proliferation versus differentiation v phosphorylation. May be a novel marker for leukemia diagnosis and for immatu cell subsets. Belongs to the tetraspanin web involved in tumor progression and

1 Gene Ontology (GO) molecular function term (links to tree view): [improved](#)

GO ID	GO term	Evidence	PubMed IDs
GO:0016301	kinase activity	--	--

[About this table](#)

Pathways & Interactions
(Pathways according to [Invitrogen](#) (maps by [GeneGo](#)), [Cell Signaling Technology](#), [KEGG](#) and/or [UniProt](#),
Sets of similar genes according to [GeneDecks](#),
Interactions according to ¹[UniProt](#) and/or ²[MINT](#), with links to [IntAct](#),
Ontologies according to [Gene Ontology Consortium](#) 2006-09-01 and [Entrez Gene](#).)
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Drugs & Compounds
(Chemical Compounds according to [AKS](#) and
Drugs according to [PharmGKB](#))
[About This Section](#)


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Transcripts
([GenBank/EMBL/DDBJ](#) Accessions according to [Unigene](#) (Build 196 Homo sapiens; Oct 17 2006) or [GenBank](#),
[RefSeq](#) according to [Entrez Gene](#),
[DOTS](#) (version 9), and/or

RNAi:

 [Invitrogen RNAi Products for gene knock-down \(CDCP1\)](#)

REFSEQ mRNAs (2 alternative transcripts):

(Click  for [Applied Biosystems TaqMan® Gene Expression Assays](#))

 [NM_022842.3](#)  [NM_178181.1](#)

AceView,
protein sequences
according to UniProt,
ESTs according to
GeneTide,
alternative splicing
isoforms according to ASD,
UniProt, and/or ECgene,
RNAi Products from
Invitrogen,
Clones available from
OriGene,
Expression Assays from
Applied Biosystems)
[About This Section](#)

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2 OriGene Full-length cDNA clones and unique splice variants in a CMV expr

[NM_022842](#) [NM_178181](#)

Additional cDNA sequence:

[AF468010.1](#) [AK023834.1](#) [AK026187.1](#) [AK026329.1](#) [AK026622.1](#) [AY026461.1](#) /
[AY375452.1](#) [BC021099.1](#) [BC069254.1](#)

18 DOTS entries:

[DT.444481](#) [DT.97861092](#) [DT.100787843](#) [DT.100787840](#) [DT.101956485](#) [DT.95271348](#) [DT.100787842](#) [DT.101961170](#) [DT.426143](#) [DT.75168869](#) [DT.99999123](#) [DT.421088](#)

24/176 AceView cDNA sequences (see all 176):

[BX473477](#) [AA554121](#) [BC069254](#) [AA292689](#) [NM_022842](#) [CB157642](#) [BM84000](#)
[BM701518](#) [BM966788](#) [NM_178181](#) [BQ962997](#) [AA132854](#) [AI420501](#) [AI202358](#)
[AA922764](#) [BC021099](#) [BM893690](#) [CA307237](#) [BM044552](#) [CB129853](#) [BM893567](#)

highest scoring ESTs for CDCP1:

[AA493886](#) [AA922764](#) [AF468010](#) [AI971357](#) [AK026622](#) [AL710125](#) [AL710149](#) [AL](#)

Unigene Cluster for CDCP1:

CUB domain containing protein 1
Hs.476093 [show with all ESTs]
Unigene Representative Sequence: [NM_022842](#)

Expression
in Human Tissues
(Experimental results
according to ¹GeneNote,
probe sets-to-genes
annotations according to
²GeneAnnot, ³GeneTide,
Sets of similar genes
according to GeneDecks,
Electronic Northern
calculations according to
data from UniGene (Build
196 Homo sapiens), SAGE
tags according to CGAP,
plus additional links to
SOURCE, and/or
EXPOLDB, and/or UniProt,
Expression Assays from
Applied Biosystems)
[About This Section](#)









Jump to Section...

CDCP1 expression in 12 normal human tissues

 Applied Biosystems TaqMan® Gene Expression Assays for CDCP1


Expression according to ¹ / ² / ³

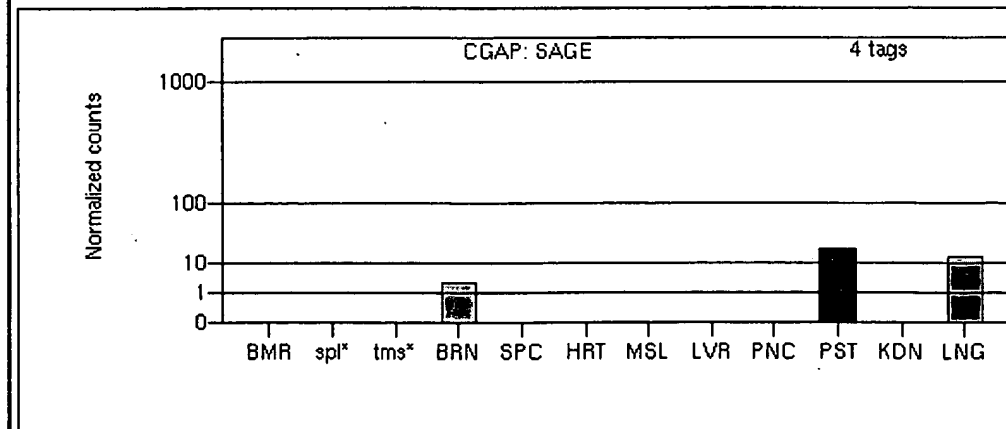
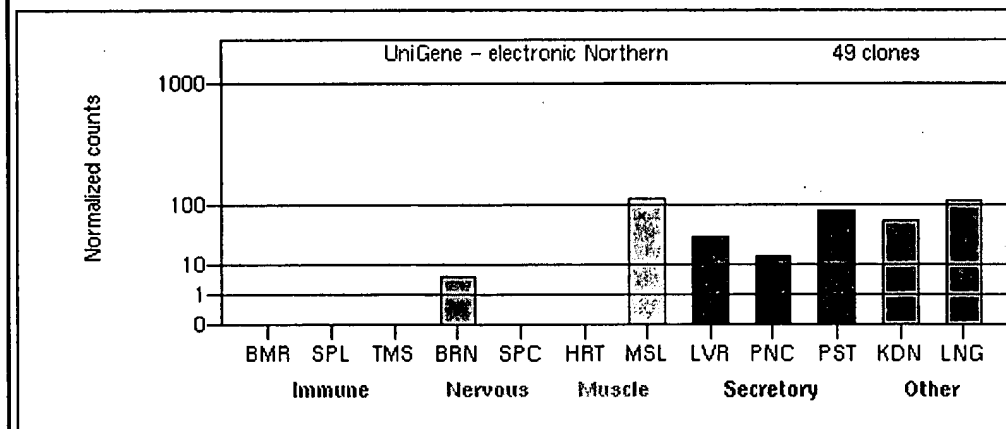
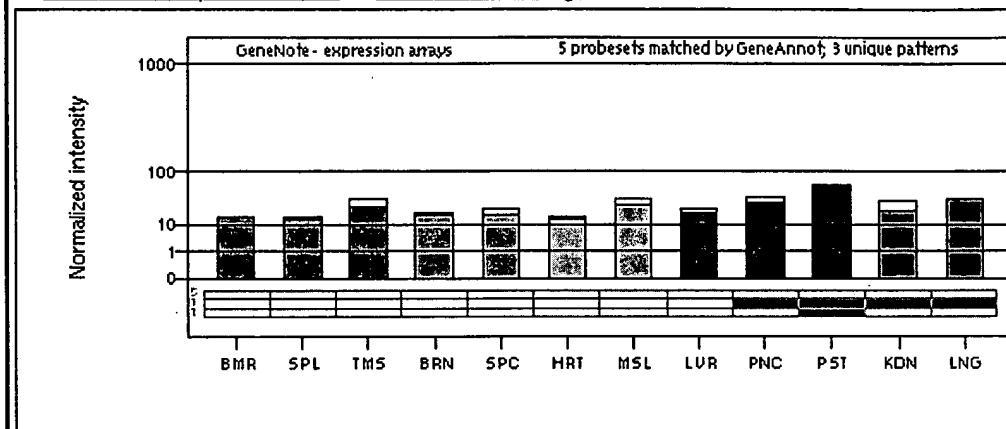
10 probe-sets matching CDCP1

	Affymetrix probe-set	Array	GeneAnnot data			GeneNote data		
			# genes	Sensitivity	Specificity	Correlation	Length	
	80136_at ^{2, 3}	U95-D	1	1.00	1.00	0.75	1.07	A
	70811_at ^{2, 3}	U95-E	1	1.00	1.00	0.84	1.08	A
	49190_s_at ^{2, 3}	U95-B	1	1.00	1.00	0.77	0.90	A
	58229_at ^{2, 3}	U95-B	1	1.00	1.00	0.85	1.03	A
	72530_at ^{2, 3}	U95-D	1	1.00	1.00	0.51	0.95	A
	218451_at ^{2, 3}	U133-A	1	1.00	1.00	--	--	N
	234932_s_at ^{2, 3}	U133-B	1	1.00	1.00	--	--	A

218451_at ²	U133Plus2	1	1.00	1.00	--	--	N
1554110_at ²	U133Plus2	1	1.00	1.00	--	--	--
234932_s_at ²	U133Plus2	1	1.00	1.00	--	--	A

GeneDecks the gene CDCP1 for binary patterns associated with the probe-se
[About this table](#) [About GeneDecksing](#)





 [See relevant publications](#) [About these images](#)



[About these images](#)

CGAP SAGE TAG: GCCTTGGTAA

	SOURCE GeneReport for Unigene cluster: Hs.476093							
	UniProt/Swiss-Prot: CDCP1_HUMAN_Q9H5V8							
	<ul style="list-style-type: none">• Tissue specificity: Highly expressed in mitotic cells with low expression during Detected at highest levels in skeletal muscle and colon with lower levels in kidn intestine, placenta and lung. Expressed in a number of human tumor cell lines a colorectal cancer, breast carcinoma and lung cancer. Also expressed in cells w reminiscent of mesenchymal stem cells and neural stem cells							
Similar Genes in Other Organisms (According to ¹ HomoloGene, ² euGenes, ³ SGD and/or ⁴ MGD Sep 23 2006, with possible further links to Flybase and/or WormBase) About This Section	Orthologs from 4 species							
	Organism	Gene	Locus	Description				
	dog (Canis familiaris)	LOC484797 ¹	--	similar to CUB domain-containing protein 1 isoform more				
	rat (Rattus norvegicus)	Cdcp1_predicted ¹	--	CUB domain containing protein 1 (predicted)				
	mouse (Mus musculus)	Cdcp1 ^{1, 4}	g ⁴	CUB domain containing protein 1 ^{1, 4}				
Jump to Section...	chicken (Gallus gallus)	LOC420703 ¹	--	similar to CUB domain-containing protein 1 isoform more				
	About this table Species with no ortholog							
Paralogs (Paralogs according to ¹ HomoloGene and ² Ensembl, Pseudogenes according to ³ pseudogene.org) About This Section	--							
	Jump to Section...							
SNPs/Variants (According to the ¹ NCBI SNP Database, ² Ensembl, ³ PupaSUITE/ PupaSNP, and UniProt, Linkage Disequilibrium by HapMap, Genotyping Reagents from Applied Biosystems) About This Section	10/217 NCBI SNPs are shown (see all 217) (Click AB for Applied Biosystems TaqMan ® Genotyping Assay) (see all 144)							
	AB	Genomic Data				Transcription Data <small>improved</small>		
	SNP ID	Valid	Chr 3 pos	Sequence	Recs	AA Chg	Type	
Sort				--	--	--		
AB	rs3749191 ^{1,2}	C,F,A	45109826(+)	CTTGTC/TGGAAG	1	Q/R	ns ¹ ese ³	
AB	rs9874077 ^{1,2}	C,F	45102519(+)	TGTTGC/TCATTG	1	D/G	ns ¹ ese ³	
AB	rs12634943 ^{1,2}	C	45127075(+)	TTCCCC/TGCCAT	2	A/A	syn ¹	
AB	rs11063 ^{1,2}	C,F,O,A	45099173(+)	CTTGTC/TCCAGT	1	--	utr ¹	
AB	rs2176804 ^{1,2}	C,F,O,A	45101562(+)	GCACAC/TGTTTA	1	--	utr ¹ ese ³	
AB	rs2139536 ^{1,2}	C,F,A	45101219(+)	gtaatG/Aggttg	1	--	utr ¹	
AB	rs4683039 ^{1,2}	C,F,A	45100854(+)	gatgtC/Tctggt	1	--	utr ¹ ese ³	
Jump to Section...								

	AS	rs129471 ^{1,2}	C,F,A	45099355(+)	TTTTAT/CGTAAG	1	--	utr ¹ ese ³
	--	rs4683038 ^{1,2}	C,F,A	45100724(+)	ctGGGG/TTTTTT	1	--	utr ¹
	AS	rs9863819 ^{1,2}	C,F	45100784(+)	TCATTT/CTGTAG	1	--	utr ¹ ese ³
	About this table All NCBI SNPs in CDCP1 HapMap Linkage Disequilibrium image for CDCP1 (see more populations for CD							
Disorders & Mutations (in-which this Gene is Involved, According to OMIM , UniProt , PharmGKB , Genatlas , GeneTests , HGMD , GAD , GDPInfo , BCGD , and/or TGDB .) About This Section	--							
Jump to Section... 								
Medical News (Possibly Related Articles in Doctor's Guide) About This Section	--							
Jump to Section... 								
Research Articles (in PubMed. Associations of this gene to articles via ¹ AKS, ² HGNC, ³ Entrez Gene, ⁴ UniProt/Swiss-Prot, ⁵ UniProt/TrEMBL, ⁶ GAD, and/or ⁷ PharmGKB) About This Section	10/12 PubMed articles (see all 12): <ul style="list-style-type: none"> Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences. ⁴ Strausberg R.L.... Marra M.A. (2002) Identification of a novel gene, CDCP1, overexpressed in human colorectal cancer. M.... Schweifer N. (2001) Adhesion signaling by a novel mitotic substrate of src kinases. (PubMed id 16000000) The C2 domain of PKCdelta is a phosphotyrosine binding domain. (PubMed id 14739293)^{3, 4} Brown T.A.... Carter W.G. (2000) Adhesion or plasmin regulates tyrosine phosphorylation of a novel membrane protein 1 in epithelia. (PubMed id 14739293)^{3, 4} Brown T.A.... Carter W.G. (2000) Complete sequencing and characterization of 21,243 full-length human cDNAs. CDCP1 identifies a broad spectrum of normal and malignant stem/progenitor cell origin. (PubMed id 15153610)^{3, 4} Buehring H.-J.... Lammers R. (2004) The secreted protein discovery initiative (SPDI), a large-scale effort to identify novel human proteins. (PubMed id 12975309)^{3, 4} Clark H.F.... Gray A.M. (2003) CDCP1 is a novel marker for hematopoietic stem cells. (PubMed id 12799299)³ Subtractive immunization using highly metastatic human tumor cells identifies a novel phosphotyrosine phosphorylated glycoprotein antigen. (PubMed id 12660814)^{3, 4} Hooper J.D.... (2003) 							
Jump to Section... 								
Search for CDCP1 (in PubMed, OMIM, and NCBI Bookshelf) About This Section	<div> <input checked="" type="checkbox"/> Aliases <div> CDCP1 (Gene Symbol) CD318 SIMA135 </div> </div> <div> <input type="checkbox"/> Search String cancer OR tumor AND breast <div></div> </div> <div> <input type="checkbox"/> Free Text <div></div> </div> <div> Query String </div>							
Jump to Section... 								

	<div data-bbox="771 157 1474 262">("SIMA135")</div> <div data-bbox="771 283 1474 325"> <input type="button" value="Copy to Clipboard"/> (Note: In FireFox, select the above section and copy) </div>				
CDCP1 in Other Genome Wide Resources: (According to GDB , Entrez Gene , HGNC , AceView , euGenes , Ensembl , miRBase , ECgene , and/or GeneLynx) About This Section	<div data-bbox="503 367 1474 472"> GDB: 11499694 Entrez Gene: 64866 HGNC: 24357 AceView: CDCP1 euGenes: HUgn64866 ECgene: CDCP1 </div>				
CDCP1 in General Databases, Limited Scope (According to HUGE) About This Section	<div data-bbox="479 735 503 756">--</div>				
CDCP1 in Specialized Databases (According to ATLAS , HORDE , IMGT , MTDB , LEIDEN , UniProt/Swiss-Prot , and/or UniProt/TrEMBL) About This Section	<table border="1"> <thead> <tr> <th data-bbox="479 955 544 976">Name</th><th data-bbox="1209 955 1339 976">Description</th></tr> </thead> <tbody> <tr> <td data-bbox="479 997 1063 1018">ATLAS Chromosomes in Cancer entry for CDCP1</td><td data-bbox="1209 997 1474 1060">Genetics and Cytogen Haematology</td></tr> </tbody> </table>	Name	Description	ATLAS Chromosomes in Cancer entry for CDCP1	Genetics and Cytogen Haematology
Name	Description				
ATLAS Chromosomes in Cancer entry for CDCP1	Genetics and Cytogen Haematology				
Services (Reagents available from Applied Biosystems , Antibodies and assays by Cell Signaling Technology , Abcam , and/or Invitrogen , Clones available from OriGene and/or RZPD) About This Section	<div data-bbox="470 1165 665 1407"> </div> <div data-bbox="673 1197 917 1260"> AB Applied Biosystems </div> <div data-bbox="673 1260 933 1281"> Products for CDCP1: </div> <div data-bbox="673 1291 1437 1354"> <ul style="list-style-type: none"> > TaqMan @ Gene Expression Assays > TaqMan @ Genotyping Assays > Free SNP selection tool </div> <div data-bbox="479 1438 787 1501"> invitrogen™ </div> <div data-bbox="479 1512 1477 1690"> <ul style="list-style-type: none"> > Invitrogen iPath Pathways > Invitrogen Antibodies > Invitrogen Clones > Invitrogen Human Recombinant Kinases > Invitrogen Proteins / Assays / Screening Services > Invitrogen BLOCK-iT™ RNAi > Invitrogen Assays > Invitrogen Q-PCR Products > Invitrogen Custom Antibody and > Search Invitrogen catalog for Cl </div> <div data-bbox="479 1764 941 1858"> </div> <div data-bbox="958 1764 1315 1858"> </div> <div data-bbox="1331 1764 1477 1858"> </div> <div data-bbox="479 1879 1477 1911"> <ul style="list-style-type: none"> > Search for Antibodies and Assays > Antibodies from Abcam > Full-length </div>				

(CDCP1)

and shRNA
expression

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[GeneCards Homepage](#) - Last full update: 29 Oct 2006

Incremental update: 29 Oct 2006

[Display the GeneCard of a random gene](#)[Display the GeneCard of a random annotated gene](#)Developed at the [Crown Human Genome Center & Weizmann Institute of Science](#)Copyright © 1996-2006, Weizmann Institute of Science. All Rights Reserved.
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